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Notice of References Cited

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U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
X	A	4,087,672	05/1978	Yi	219	121.68
X	B	4,114,018	09/1978	Von Almen et al.	219	121.69
X	C	4,464,761	08/1984	Altano et al.	—	—
X	D	4,579,430	04/1986	Bille	—	—
X	E	4,630,274	12/1986	Schäfer	—	—
X	F	4,665,913	05/1987	L'Esperance, Jr.	—	—
X	G	4,675,500	06/1987	Kunz et al.	219	121.73
X	H	4,727,381	02/1988	Bille et al.	—	—
X	I	4,729,372	03/1988	L'Esperance, Jr.	—	—
X	J	4,732,473	03/1988	Bille et al.	—	—
X	K	4,733,660	03/1988	Itzkan	—	—
X	L	4,764,930	08/1988	Bille et al.	—	—
X	M	4,838,679	06/1989	Bille	—	—

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
X	N	41 19024 A1	12/1992	Germany	—	—	—
X	O	89/08529	03/1989	WIPO	—	—	—
X	P	62-93,095	04/1987	Japan	Nishikawa et al.	—	—
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

*		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
①	X ^U	C.V. Shank, R. Yen and C. Hirshmann, "Time Resolved Reflectivity Measures of Femtosecond Optical-Pulse-Induced Phase Transitions in Silicon", Physical Review Letters, vol. 50, No. 6, 454-457, Feb 7, 1983	02/1983
②	X ^V	C.V. Shank, R. Yen, and C. Hirshmann, "Femtosecond-Time Resolved Surface Structural Dynamics of Optically Excited Silicon", Physical Review Letters, Vol. 51, No. 10, 900-902, September 5, 1983	09/1983
③	X ^W	C.V. Shank and M.C. Downer, "Femtosecond Dynamics of Highly Excited Semiconductors", Mat. Res. Soc. Symp. Proc., vol. 51, 15-23	1985
④	X ^X	S. Küper and M. Stuke, "Femtosecond uv Excimer Laser Ablation", Applied Physics B, vol. 44, 199-204, June 7, 1993	06/1993

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

Notice of References Cited

Application No.

09/775,000/06
09/366,685

Applicant(s)

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U.S. PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	4,839,493	06/1989	Herziger et al.	219	121.69
B	4,848,340	07/1989	Bille et al.	—	—
C	4,881,808	11/1989	Bille et al.	—	—
D	4,901,718	02/1990	Bille et al.	—	—
E	4,907,586	03/1990	Bille et al.	—	—
F	4,925,523	05/1990	Braren et al.	—	—
G	4,930,505	06/1990	Hatje	—	—
H	4,942,586	07/1990	Lai	—	—
I	4,988,348	01/1991	Bille	—	—
J	5,062,702	11/1991	Bille	—	—
K	5,093,548	03/1992	Schmidt - Hebbel	219	121.71
L	5,098,426	03/1992	Sklar et al.	—	—
M	5,141,506	08/1992	York	—	—

FOREIGN PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

*	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
⑥ U	S. Preuss, M. Späth, Y. Zhang, and M. Stuke, "Time Resolved Dynamics of Subpicosecond Laser Ablation", Applied Physics Letters, Vol. 62, No. 23, 3049-3051, June 7, 1993	06/1993
⑦ V	A. M. Malvezzi, N. Bloembergen, and C. Y. Huang, "Time-Resolved Picosecond Optical Measurements of Laser-Excited Graphite", Physical Review Letters, vol. 57, No. 1, 146-149, July 7, 1986	07/1986
⑧ W	D. H. Reitzke, X. Wang, H. Ahn, and M. C. Downer, "Femtosecond Laser Melting of Graphite", Physical Review B, vol. 40, No. 17, December 15, 1989	12/1989
⑨ X	F. Muller, K. Mann, P. Simon, J. S. Bernstein, and G. J. Zaal, "A comparative Study of Decomposition of Thin Films by Laser Induced PVD with Femtosecond and Nanosecond Laser Pulses", SPIE Vol. 1858, pages 464-475	1993

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

09/775, 10

Notice of References Cited

Application No.

397366,685

App. (s)

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U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
X	A	5,207,668	05/1993	L'Esperance, Jr.	—	—
X	B	5,208,437	05/1993	Miyachi et al.	219	12,83
X	C	5,219,343	06/1993	L'Esperance, Jr.	—	—
X	D	5,235,606	08/1993	Mourou et al.	372	25
X	E	5,246,435	09/1993	Bille et al.	—	—
X	F	5,269,778	12/1993	Rink et al.	606	12
X	G	5,289,407	02/1994	Strickler et al.	—	—
X	H	5,312,396	05/1994	Feld et al.	—	—
X	I	5,335,258	08/1994	Whitlock	378	122
X	J	5,348,018	09/1994	Altano et al.	606	10
X	K	5,389,786	02/1995	Itoh et al.	250	307
X	L	5,454,902	10/1995	Zinck et al.	219	121,69
X	M	5,558,789	09/1996	Singh	219	121,69

FOREIGN PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
	N						
	O						
	P						
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

*		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(9)	X	U International Search Report Form PCT/ISO/210 Dated 31 July 1995 and Mailed 4 August 1995	08/1995
(10)	X	V M.W. Berns et al., "Laser Microsurgery in Cell and Developmental Biology" Science, Vol. 213, No. 31, pages 505-513, July 1981	07/1981
(11)	X	W G.L. LeCarpentier et al., "Continuous Wave Laser Ablation of Tissue: Analysis of Thermal and Mechanical Events", IEEE Transactions on Biomedical Engineering, Vol. 40, No. 2, 188-200, February 1993	02/1993
(12)	X	X C. LeBlanc, "Realization and Characterization of a High Intensity Femtosecond Laser System Based on a Titanium Doped Sapphire", Annales de Physique, Vol. 19, No. 1, Abstract, Feb. 1994	02/1994

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

09/775,685

Notice of References Cited

Application No.

09/775,685

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1725

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U.S. PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	3,720,213	03/1973	Hobart et al.	—	—
B	4,001,840	01/1977	Becker et al.	—	—
C	4,289,378	09/1981	Remy et al.	—	—
D	4,712,543	12/1987	Baron	—	—
E	5,280,491	01/1994	Lai	372	24
F	5,984,916	11/1999	Lai	606	11
G	5,520,679	05/1996	Lin	—	—
H	5,104,480	04/1992	Wojnarowski et al.	219	121.69
I	5,659,536	08/1997	Mailhot et al.	—	—
J	RE 37,585 E	03/2002	Mourou et al.	219	121.69
K					
L					
M					

FOREIGN PATENT DOCUMENTS

*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

*	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(13) X U	R. Birngruber, C. Puliafito, A. Gawanke, W. Litz, R. Schoenlein, and T. Fujimoto, "Femtosecond Laser-Tissue Interactions: Retinal Injury Studies," <i>IEEE Journal of Quantum Electronics</i> , vol. QE-23, No. 10, 1836-1844, Oct. 1987	10/1987
(14) X V	B. Zysset, T. Fujimoto, and T. Deutsch, "Time-Resolved Measurements of Picosecond Optical Breakdown," <i>Applied Physics B</i> 48, 139-147 (1989).	1989
(15) X W	B. Zysset, T. Fujimoto, C. Puliafito, R. Birngruber, and T. Deutsch, "Picosecond Optical Breakdown: Tissue Effects and Reduction of Collateral Damage," <i>Lasers in Surgery and Medicine</i> 9:192-204 (1989)	1989
(16) X X	S. Watanabe, R. Anderson, S. Brorson, G. Dalakas, T. Fujimoto, and T. Flotte, "Comparative Studies of Femtosecond to Microsecond Laser Pulses on Selective Pigmented Cell Injury in Skin," <i>Photochemistry and Photobiology</i> Vol. 53, No. 6, 757-762	1991

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

Notice of References Cited

Application No.

09/775, 09/10
09/366,685

App. Inventor(s)

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U.S. PATENT DOCUMENTS

☆		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
	A					
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FOREIGN PATENT DOCUMENTS

☆		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
	N						
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	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

☆		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(17)	X	N. Bloembergen, "Laser-Induced Electric Breakdown in Solids" IEEE Journal of Quantum Electronics, Vol. QE-10, No. 3, (March 1974)	03/1974
(18)	X	R. Birngruber, C. Puliafito, A. Gawaunde, W. Lin, R. Schoenlein, and J. Fujimoto, "Femtosecond Laser-Tissue Interactions: Retinal Injury Studies, IEEE Log. No. 8716039, (1987)	1987
(19)	X	D. Stern, R. Schoenlein, C. Puliafito, E. Dobbij R. Birngruber and J. Fujimoto, "Corneal Ablation by Nanosecond, Picosecond, and Femtosecond Lasers at 532 and 625 nm", Arch Ophthalmol, Vol. 107, (April 1989)	04/1989
(20)	X	J. Squier, F. Salin, and G. Mourou, "100-fs Pulse Generation and Amplification in Ti:Al ₂ O ₃ ", Optics Letters, Vol. 16, No. 5 (March 1991)	03/1991

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

09/775,6210

Notice of References Cited

Application No.

App. (s)

09/366,685

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U.S. PATENT DOCUMENTS

☆		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
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FOREIGN PATENT DOCUMENTS

☆		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
	N						
	O						
	P						
	Q						
	R						
	S						
	T						

NON-PATENT DOCUMENTS

☆		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(21)	X	B. Frueh, J. Bille, and S. Brown, "Intraocular Relaxing Excisions in Rabbits with a Picosecond Infrared Laser", Lasers and Light in Ophthalmology, vol. 4, No. 3/4, pages 165-168, (1992)	1992
(22)	X	R. Rimmel, C. Dardenne, and J. Bille, "Intraocular Tissue Removal Using an Infrared Picosecond Nd:YLF Ophthalmic Laser Operating at 1053 nm", Lasers and Light in Ophthalmology, vol. 4, No. 3/4, 169-173, (1992)	1992
(23)	X	J. Squier and G. Mourou, "Tunable Solid State Lasers Create Ultrashort Pulses", Laser Focus World, (June 1992).	06/1992
(24)	X	M.H. Nieme, T.P. Hoppeler, T. Juhasz, and J. Bille, "Intraocular Ablations for Refractive Corneal Surgery Using Picosecond Infrared Laser Pulses", Lasers and Light in Ophthalmology, vol. 5, No. 3, pp. 149-155, 1993	1993

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

Notice of References Cited

Application No. 09/775,824

Appl. Inventor(s) Mourou

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U.S. PATENT DOCUMENTS

★	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A					
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FOREIGN PATENT DOCUMENTS

★	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

★	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(25) X	H. Cooper, J. Schuman, C. Puliafito, D. McCarthy, W. Woods, N. Friedmann, N. Wang, and C. Lin, "Picosecond Neodymium:Yttrium Lithium Fluoride Laser Sclerectomy", <i>Am. Journal of Oph.</i> , 115: 221-224, (Feb. 1993)	02/1993
(26) X	K. Frederickson, W. White, R. Wheeland, and B. Slaughter, "Precise Ablation of Skin with Reduced Collateral Damage Using the Femtosecond-Pulsed Terawatt Titanium-Sapphire Laser", <i>Arch Dermatol</i> , 101: 129, (August 1993)	08/1993
(27) X	H. Kapteyn and M. Murnane, "Femtosecond Lasers: The next Generation", <i>Optics & Photonics News</i> , (March 1994).	03/1994
(28) X	G. Mourou, A. Zewail, R. Barabara, and W. Knox, "New Generation of Ultraviolet Sources Marked by Higher Powers, Versatility", <i>Optics & Photonics News</i> (March 1994)	03/1994

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)

09/775, ~~09/775~~ 100

Notice of References Cited

Application No.

09/366,685

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U.S. PATENT DOCUMENTS

★	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
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FOREIGN PATENT DOCUMENTS

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N						
O						
P						
Q						
R						
S						
T						

NON-PATENT DOCUMENTS

★	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
(29) X U	D. Du, X. Lin, G. Korn, J. Squier, and G. Mourou, "Laser-Induced Breakdown by Impact Ionization in SiO ₂ with Pulse Widths from 7ns to 150fs", Appl. Phys. Letters 64 (23), (June 6, 1994)	06/1994
(30) V	Wolfgang Kautek and Jörg Krüger "Femtosecond and Picosecond Excimer Ablation of Fused Silica" by Thiemann et al., Applied Physics A, 54, pages 363-368,	12/1992
(31) W	Wolfgang Kautek and Jörg Krüger "Femtosecond Pulse Laser ABLATION OF Metallic, Semiconducting, ceramic, and biological materials," SPIE, Volume 2207, pages 600-607, 611	04/1994
X		

* A copy of this reference is not being furnished with this Office action.
(See Manual of Patent Examining Procedure, Section 707.05(a).)